MONROE COUNTY DEPARTMENT OF HEALTH

PROTOCOL FOR CHARACTERIZING POTENTIAL CHEMICAL CONTAMINATION IN PROPOSED REALTY SUBDIVISIONS

[JULY 1995]

The New York State Department of Health (NYDOH) requires the evaluation of previous land usage prior to approval of realty subdivision applications. (Reference: 10NYCRR 74.7 6NYCRR Part 617 - State Environmental Quality Review) The New York State Department of Health Bureau of Toxic Substance Assessment (BTSA) has developed draft guidance to local Health Departments which recommends the consideration of past land uses during the permit review process.

Previous usage of lands should be evaluated for agricultural activities involving the application of pesticides to orchards or other crops, industrial activity, disposal of municipal wastes, construction and demolition debris, household trash, hazardous wastes, landfilling, sludge application and the potential for the presence of harmful degradation products. This evaluation is necessary to minimize potential public exposure to pesticides or other chemical residues in soils, ground water and surface waters during construction and site occupancy.

The Supplemental Application Form should be completed and submitted to MCDOH as part of the submission for realty subdivision approval process.

Information to complete this form may be available from a number of sources including: past property owners, site neighbors, local municipal officials, New York State Department of Environmental Conservation (NYSDEC), Monroe County Environmental Management Council (MCEMC) and the Monroe County Department of Health (MCDOH). Historical aerial photos are also an important source of information. Photos can be examined at MCEMC – 50 West Street, 7th Floor; (716) 760-7610 ext. 7041; Fax: (716) 760-4780.

Exposures can occur due to windborne soils and fugitive dust emissions affecting residents and construction personnel, contamination of shallow groundwater or proposed drinking water wells, direct ingestion of surface soils by young children and by the ingestion of fruits and vegetables grown in contaminated soils.

Areas exhibiting concentration levels above guidelines established by the NYSDOH/MCDOH may require special construction procedures along with area remediation before or during on site developmental activities.

The following remediation alternatives may be used for contaminated soils: limited excavation and disposal at permitted waste disposal sites; limited excavation and stockpiling for use as fill material on-site to establish required grades; bottom plowing and disking to achieve background levels; emplacement below parking lots, roadways or other low permeable surfaces; use of deed restrictions to give notice to future residents of areas where use may be restricted. These alternatives should not be considered all-inclusive to allow for remediation flexibility.

An assessment of contaminant levels will be made by comparison to available information on typical background occurrences in residential soils. Published data can provide valid information for assessing significance of contaminated levels in soils in addition to consultations with BTSA.

The Developers, their agents/consultants (D/A) can utilize a variety of documents for their evaluation such as the USEPA Health Based Criteria For Carcinogens, Health Based Criteria for Systemic Toxicants, Element and Chemical Concentrations in Eastern US, NY and Monroe County Soils. The NYSDOH Drinking Water Standards, the NYSDEC Groundwater Standards and the USEPA Health Based Criteria will be used for evaluating groundwater. Other publications with scientifically supported guidance values can also be used.

SOILS

The subdivision developer should submit a supplemental application indicating past site usage. D/A will be responsible for conducting the preliminary evaluation and if indicated develop the soil sampling plan, overseeing the field sampling investigation and if required by MCDOH developing, overseeing and certifying compliance with a soils management plan(SMP). Upon completion of the SMP, soils monitoring may be required to document the effectiveness of the remediation project.

If there is evidence of possible residual contamination, the D/A will prepare a sampling plan and submit it to the MCDOH. The plan will detail the number of samples to be collected, sampling locations, soil depth intervals to be sampled, the analyses to be performed along with the rationale for selecting the locations. Sampling location selection should be based on historic patterns; suspected mixing, storage and disposal areas; differences in surface topography, swales, surface drainage and different soil drainage conditions; variations in soil type across the site or other site-specific conditions. The proposed locations should be plotted on a site plan which shows the topography, roadways and proposed lot boundaries.

Prior consultation with the MCDOH regarding the sampling plan as to the sampling locations, their number along with monitoring and analytical requirements is strongly recommended.

The number of sampling locations should be adequate to characterize the distribution of contaminant levels across the project area. In order to identify distinct areas of contamination, samples should not be composited. Cross-contamination between samples should be prevented by the use of clean equipment.

Initial samples should be obtained in the top two inches of soil. Soils at deeper levels should be collected at the same time as surface samples. They should be held for analysis under appropriate laboratory conditions following USEPA and NYSDOH laboratory protocols pending the analytical results of the surface samples. Analysis of deeper soil samples should be done when significant elevated levels in the upper interval are encountered or when a soils management plan involves top soil removal.

Sample analysis should be performed by a laboratory certified by the New York State Environmental Laboratory Approval Program. Pesticides are to be analyzed by Method 8080 - EPA SW-846. Other pesticides and their appropriate metabolites should be analyzed by appropriate methods based on years of usage, half-life, and time of last application. Lead, arsenic and mercury should be evaluated under the appropriate EPA 7000 series and prepared under EPA-3050.
Analytical protocols for industrial, commercial or waste disposal sites should be discussed with MCDOH.

The TCLP (leaching procedure) is not recommended because some exposure pathways involve the entire soil metal content. TCLP may be appropriate where elevated levels of metals indicate that the soils may be considered hazardous waste (NYSDEC should be consulted in this regard).

GROUNDWATER

Test wells should be drilled and sampled if: (1) a potable water source is to be located on site - refer to the MCDOH Policy on Wells Serving Realty Subdivision;(2)contaminated groundwater may be encountered during construction or in basement sumps.

SURFACE WATER / SEDIMENTS

Surface water and sediment locations should be included if ditches, streams, ponds, etc. are on the subject property. Upgradient and downgradient locations should be sampled.

RESPONSIBILITIES

Developers, their agents/consultants are responsible for interpretation of monitoring data, evaluating the site and determining the need for any remedial measures prior to or during site development. MCDOH will either agree or disagree with the submitted information.

LIST OF REFERENCES

(1) 10 NYCRR 74.7

(2) Criteria for Contaminated Soils/Sediment Cleanup, J. Fitchko, 1989

(3) Draft NYS AIR GUIDE I - Guidelines for Control of Toxic Air Contaminants, NYSDEC Division of Air Resources, 1991

(4) Fugitive Dust Suppression & Particulate Monitoring Program at Inactive Hazardous Waste Sites, Division Technical & Administrative Guidance Memorandum HWR-89-4031, NYSDEC Division of Hazardous Waste Remediation, October 1989

(5) Exposure Factors Handbook, USEPA, Publication # EPA 600-8-89-043, July 1989

(6) RCRA Facility Investigation (RFI) GUIDANCE, Volume I-IV, USEPA, Publication # PB89-200299, May, 1989

(7) Background Concentrations of 20 Elements in Soils with Special Regard for New York State, NYSDEC, undated

(8) NYSDEC TAGM Determination of Soil Cleanup Objectives and Cleanup Levels, November 16, 1992

(9) NYSDEC STARS Memo #1 Petroleum Contaminated Soil Guidance Policy, August 1992